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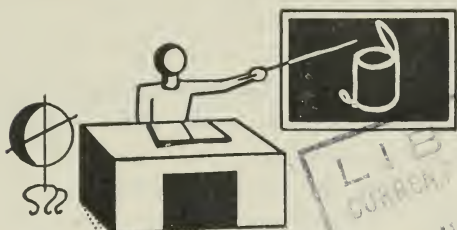
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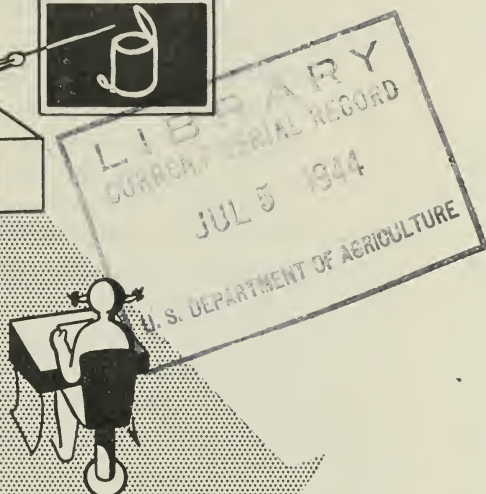
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# **FOOD CONSERVATION EDUCATION** *in the elementary school program*

**650,000  
TEACHERS**



**Can tell  
20,000,000  
PUPILS**



**How to help cut down  
the 125,000,000 pounds  
of food that Americans  
waste each day from  
farm to table**



**WAR FOOD ADMINISTRATION  
U. S. Department of Agriculture**

*in cooperation with the*

**U. S. OFFICE OF EDUCATION  
Federal Security Agency**

**NFC-13**

# Foreword

Food conservation is necessary in a world at war. It also will be important in the years of peace to follow. Children of elementary school age are learning to think in terms of hemisphere solidarity and global understanding. Through the ration program they also are coming to realize the importance of food for themselves. They can put two and two together to get some idea of what the presence or absence of food can mean to all people both in our own and other countries of the world, and can develop lifelong attitudes toward sharing.

Boys and girls want an active rather than a passive part in the war. Through raising their own garden produce, through preventing food waste, through drying or preserving food, through cooking simple foods properly they come to develop an appreciation for food that they cannot get through reading or discussion only. This publication attempts to suggest some ways in which teachers can stimulate interest in a food conservation program that accents activity on the part of elementary school children themselves.

Washington, D. C.

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# FOOD CONSERVATION EDUCATION IN THE ELEMENTARY SCHOOL PROGRAM

## Why food conservation should be taught in the elementary schools

### *Daily habits not easy to change*

If you eat three times a day, you have had 10,950 meals in the last 10 years. Your likes and dislikes for certain foods have become habitual. As a nation, we have never doubted that there would always be food enough. As individuals, we have prided ourselves on "setting a good table" and being "choosy" about our food. Few of us have been trained to consider intolerable, burning of the toast, scorching of the stew, or discarding of left-overs. A discussion of waste draws from most women a sincere denial that they waste any food. Because of that deep-rooted habit that many of us have formed of eating the best and discarding the rest, the housewife may allow the dry bread to get drier; she may cook fresh food instead of using left-overs; and she may think little of it if Johnnie leaves food on his plate because "he doesn't like it."

### *Attitudes toward food need reshaping*

In the light of recent research and increasing demands on our food supply we are called upon to take a more serious attitude toward food. Nutritionists are telling us that many of the parts of our foods that we now throw away are among the most nutritious. Use of these parts makes for better health for those who consume them. It is doubly important that they be used in view of present-day conditions, when it is necessary to save all possible food not only for ourselves but also for our allies.

Reshaping American thought in such a way as to induce people to respect, appreciate, and conserve food is a big undertaking. It won't be easy, for habits of long standing are hard to change, but it is vitally important that the attitude toward food become one of intelligent concern. When Americans realize the relation of food conservation to the winning of the war, when they understand how much money they are throwing



into the garbage can, and when they learn that some of the food they throw away is nutritionally valuable for good health, then American habits of wasting will change to habits of saving.

### ***People turn for help to the schools***

The establishment of habits begins when we are very young. Food habits, especially, are well entrenched early in life. The seeds of a sincere respect for food, therefore, should be planted and cultivated in the schools. If the fundamentals of the food conservation program can reach the 20 million elementary school children through their 650,000 teachers, food waste should be materially reduced. Through the children, also, parents will be influenced to conserve. Only when he understands thoroughly the need for more food will each individual make an honest effort to save from waste the food he harvests, distributes, sells, cooks, or eats.

### ***Farmers have done their part***

Despite wartime shortages of farm labor, farm machinery, and supplies, farmers are doing an excellent job of producing food. For each of the last 7 years the American farmer has succeeded in breaking his own all-time high record for the year before. In spite of floods and unfavorable



Take advantage of children's fondness for forming clubs by starting a Clean Plate Club in the class.

weather the total food production for 1943 surpassed any other year in our history. It was 32 percent above the 1935-39 average. Still higher goals were set for 1944. *But increased food production alone cannot solve the problem!* The demands of war call for all the food that farmers and Victory gardeners can possibly raise.

### ***The demand for more food is very great***

Our armed forces, reaching toward the 10-million mark and spreading out over the entire world, require increasing amounts of food that must travel through long supply lines, in constant jeopardy, moving toward the fighting fronts.

Civilians are working harder, earning more, and buying and eating more than ever before. In the war years of 1941 and 1942, our home consumption of food was the highest in our history. When we learn *to buy only what we need, and use all we buy* we will be helping food to win the war.

Our bombed-out allies, who are bearing the brunt of destruction, must be kept from starvation until their own fields are restored to them and are producing food. In 1942 about 6 percent of our total food production was set aside for lend-lease requirements. For 1943 this figure was about 10 percent.

*Our own armed forces and our lend-lease commitments together are requiring in 1944, as in 1943, one-fourth of our total food production. And this is just about the amount of food we waste!*

### ***We have wasted one-fourth of the food we produced***

In the past, our food losses, beginning with production and ending with consumption, have been equivalent to the amount of food allotted to our military forces and our allies. Occasionally wasted in acre, carload, or bushel lots, but more often in little dribbles, the food produced on 2 out of every 8 acres under cultivation is lost in normal years. That means a waste not only of vitally needed food, but also of labor, transportation, and supplies.

Food losses occur on the farm when parts of crops are not harvested because prices are too low to make harvesting worth while; or when lower grades of produce are not fully utilized; or when machinery and labor shortages prevent harvesting or marketing. Rodents and insects are responsible for almost 2 billion dollars' worth of damage annually; plant diseases destroy millions more.

Food is lost in transportation to market on account of inferior packing, overripeness, disease, lack of refrigeration, delays in routing, rough handling, or for other causes. A case study of the New York City wholesale produce market in 1940 showed that there is a loss of 7 percent in the wholesale distribution of fresh fruits and vegetables in that area.

Much of the waste in retail stores is caused by the pinching and squeezing that customers give fruits and vegetables, as well as by the trimming which grocers give produce to make it more attractive.

*In the average family home we peel and trim from our vegetables and fruits and scrape from our plates 400 pounds of edible food a year.*

Counting the food waste that never gets into the garbage can and subtracting the parts of foodstuffs that are inedible, there is in normal years an estimated annual per capita wastage in this country of 100 pounds of edible food. Edible waste is food that could have been eaten. Inedible waste refers to bones, nut and egg shells, coffee grounds, tea leaves, and other items. It has been estimated the wastage of edible food in the home amounts to 5 percent of the protein, 25 percent of the fats, and 20 percent of the carbohydrates, or an over-all waste of 19 percent of the calories of all the food purchased.

### ***Teachers are concerned about individual food habits***

Educating every child to understand why he should eat *all* his apple and *all* the food on his plate is a job that necessitates a knowledge of how food is wasted in the home and how it may be saved.

Home wastage is highest in perishable products, such as fruits and vegetables, and in baked goods. A look into almost any kitchen will find the housewife paring potatoes, apples, and carrots. From one-tenth to one-fourth of the total weight of potatoes, as well as a considerable amount of the iron and vitamin C, is lost in paring. Not only is actual cash thrown away when certain vegetables are pared and trimmed of their tops, but valuable food nutrients also are lost. Nutrition and marketing education are gradually reaching the housewife to show her both *how* to buy and *what* to buy to get the most food value from her purchases. This knowledge of nutritive values, together with new food-saving habits, will make us a healthier nation.

Careful planning that takes into consideration the supplies "on hand" and wise buying will reduce the amount of food needed. Too often the refrigerator is a stepping stone to the garbage pail. Intentions of saving are good, but the left-overs are often forgotten when tomorrow's meal is prepared. Overbuying results in an overloaded refrigerator and eventually in wilted lettuce and carrots, shrunk cucumbers and squash, and dry cabbage and greens.

Knowing where and how to store food to assure its maximum preservation is important. Temperature has a direct bearing on the deterioration of food. Sweetpotatoes, for instance, should be kept at approximately room temperature. Potatoes and onions need a cool, dark place. Cereals remain fresh if the cupboard is dry. Meat keeps best in the coldest part of the refrigerator, and butter ought to be kept covered and away from strong odors.





Eating dessert before the main dish kills the appetite for meat and vegetables and results in wasted food and inadequate nutrition.

Habit has tied us to still another way of wasting food. "Don't like" is a common phrase at American tables. We should be willing to try any good foods that are in plentiful supply, and develop a taste for them. In the past, "nice" table manners dictated that a little food should be left on our plates. That's an artificial practice even in peacetime; in wartime with thousands of hungry people in the world it is intolerable.

## ***Our food supply is a national problem***

A potato or two, some greens, or a bit of bread discarded in one home may seem insignificant. But multiply that loss by our Nation's 34 million homes. If every citizen of the United States saved 1 tablespoonful of butter every week, the total would equal the quantity of butter used by our entire armed forces in 1942. If every American family saved from waste only 1 slice of bread a week (and the real wastage is far greater) the total saving would amount to 100 million loaves a year. To create in the mind of each school child a sense of individual responsibility for food conservation should be the aim of every teacher.

## ***This is a job for everyone***

Someone must take the initiative in the food-conservation movement in the community as well as in the schools. Since teachers are acknowledged leaders and can have the facts on food wastage at their fingertips, they have a vital role to play in arousing the community to organized conservation activities. A committee of community leaders, representing a nutrition committee, the schools, women's clubs, and food retailers should direct the local fight against food waste. Analysis of causes of local food waste may call for the organization of a system for selling food surpluses, or a drive to eradicate rats, or a plan to recruit workers to help in harvesting food crops, a program to organize Clean Plate Clubs<sup>1</sup> or Victory Gardens, the organization of cooperative canning groups, or similar activities.

## ***Food waste in homes and communities can be reduced***

Men, women, and children must become food conscious. This is the most vital factor in saving food. Obviously we cannot kill every rat that eats food nor can we prevent all blight and rot. We can't eliminate all bruising of fruits and vegetables in shipment or in stores. But *if we could save one-half of the food now wasted in getting foodstuffs from the farm to the consumer's table the amount would feed approximately 15 million people*—hungry men, women, and children in war-devastated countries and undernourished people in our own United States.

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<sup>1</sup> See Appendix for details.

# How food conservation may be taught

A number of activities in the form of projects, problems, and questions which may assist the teacher in working with her pupils to help save food for civilian and war needs are suggested in the following pages. In these activities *learning*, *living*, and *serving* become all but synonymous terms.

## Important factors in carrying out the program

### *Some phase of food is studied in every grade*

A study of food may well occupy an important place in the elementary school curriculum. It is assumed that some phase of the subject, from food production and distribution to nutrition education, is studied in every grade, although the order may vary from school to school. In one city the study of food in the home is used as a basis the first year; the study of food from a community standpoint the second year; the study of food from the standpoint of the county the third year; and the study of food from the standpoint of the State, the United States, and the world in the fourth, fifth, and sixth years, respectively. In another school the study of food is related to major fields of the economic and social order—production, distribution, consumption, communications, transportation, protection and conservation, aesthetics, ethics, and education. Naturally, no two teachers will use exactly the same methods in teaching food conservation. A variety of suggestions is offered in connection with the discussion of projects that may be used by the teacher in giving instruction in food conservation. The suggestions are flexible enough to fit into the established course.

### *Appreciation of food grows with understanding*

Before children will have a desire to conserve food they must understand its value. City children who have not come in contact with growing things will have the least experience on which to build. If home and school gardens are not possible, then soil and seeds might be taken to the classroom. Seeing foodstuffs in their actual growing stages will arouse more active interest than will pictures or reading matter on the subject of food growing.

If the children have had experience with food production they may be ready for a study of food distribution. The decision on this point naturally lies with the teacher. Whether they are 6 or 14 years of age, whether they live in the city or country, in the North, South, East, or West, children can be taught to understand the importance of food and the need for conserving it.



## ***Activities can be selected to fit classroom needs***

Knowing the background and the education of her pupils as well as her own goals for the year, a teacher must determine for herself what part of the food conservation projects here outlined she can fit into her plans in an effort to influence her pupils to form lasting habits of conserving food.

Beginning with personal and local experiences and extending to the national and international horizons, the projects that follow are arranged to include, in logical sequence, raising, packing, selling, transporting, and distributing food. Causes of food waste and ways in which wastage may be reduced are emphasized throughout each project. Studies of food waste in the home, school, and community are of major interest.

*The questions to be answered in connection with the food conservation plans here suggested should be modified to fit the age and experience of the pupils as well as the curriculum the teacher is following.*

## ***Close cooperation is essential between teachers and community leaders***

Food conservation is a subject of interest to the entire community. Whenever it is possible for school boys and girls to carry on their food conservation projects in the community they should be encouraged to do so. These projects should be developed under the direction of the teachers and a local nutrition committee or other community-wide committee in order to avoid duplication of the effort and time for citizens who are cooperating.

Food waste surveys, local surplus studies, and the organization of volunteer farm help plans should be coordinated with community plans, where such plans exist. Radio stations, newspapers, advertisers, merchants, clubs, and local organizations of all kinds are willing usually to cooperate in this type of civic project. They should therefore be approached by the community committee or its appointed representatives.

## ***Class trips need to be carefully planned***

Trips to farms, commercial food-handling plants, railroads, and stores should be carefully planned to prepare pupils for intelligent observation. The persons visited must know, too, the motivation for the trip and be ready to answer questions and demonstrate methods. When pupils from different grades or schools wish to interview the same person they might form a representative committee for the purpose.

## ***Projects may be adapted to special courses***

The projects here suggested offer rich opportunity for specialized study suited to classes in language, the arts, arithmetic, the social studies, nature study, science, nutrition, and health. These subjects may be combined naturally in an integrated approach to problems of food conserva-

tion as pupils encounter them in their out-of-school experiences. It is hoped that teachers will value this unified treatment of the problems, while utilizing the special aspects that apply to the subject matter they are teaching. Ideally, the projects should be undertaken cooperatively by all the teachers in a school in order that a well-rounded study of food conservation problems may be carried on.

## Questions and activities

### *Where do we get our food?*

The farmer, the fisherman, the Victory gardener, and many others are food producers. The development of the discussion on food sources depends upon the age, environmental background, and education of the pupils. The younger the pupil, the more personalized the discussion should be.



The child who helps to raise food in a Victory Garden is less likely to waste it. (Participation is fundamental to understanding of problems in the home and the community.)



## *May we have a garden where we can watch things grow?*

The children who have had experience in gardening probably will be planning their own gardens. They will enjoy contributing from their knowledge to the class discussion on a proposed school garden, or advising other pupils who are planning gardens.

Before pupils decide on the general size of garden they propose to plant, information should be obtained on the amount of tillable ground in the community, the average size garden now grown, and the amount of food-stuffs produced. Measuring and dividing the community-garden area into individual garden plots may be made the basis of a problem in arithmetic.

During the winter months, window boxes, pots, pans, tubs, or buckets may be used for raising a few garden vegetables for class observation.

## *Is the ground satisfactory for gardening?*

This question may be the basis for a study of soils, first in the home community and then, if the pupils are sufficiently prepared for it, in other parts of the country. Pupils can bring in samples of local soil. The teacher of agriculture or chemistry or the county agricultural agent might be invited to talk on the relation of soil to productivity. Gardening in inferior soil should be discouraged. Methods of enriching the soil, soil conservation, and related subjects may be included in the discussion.

## *What shall we plant?*

Among the questions that must be considered before a decision is reached on what to plant are the following: Amount of space available, the type of soil, the time required for cultivation, the cost, the foods most needed for well-balanced meals, and the eventual use of produce (for school lunchroom, consumption by pupils, or for sale).

Having selected the kinds of vegetables or fruits to plant, the child or class should get the best seeds. Seeds of all kinds are interesting to a child. Varieties of seeds brought to the school by pupils or the teacher, may form the basis of a discussion on seeds. Where to buy seeds, how much they cost, why farmers save their own seeds from season to season, how plants are fertilized, and how the seeds develop, are questions that may be answered in such a discussion.

A class discussion, or report made by one of the pupils, on the amount and kinds of seeds the United States is sending to needy countries, will serve to broaden the pupils' vision of world needs.

In pointing out the beauty in symmetry and color of seeds, the teacher may develop in the minds of the pupils an increasing appreciation for utility and beauty. Selected poems, stories, and essays read to or by the

pupils about seeds and growing things may inspire in them an increased interest in food projects.

### *When shall we plant the garden?*

Climate and weather are fascinating subjects to children, who are led to realize the far-reaching effects of these elements on their daily lives. A discussion of the effect of weather on plants may be made just as interesting. Definite seasons for planning, planting, cultivating gardens, and harvesting the products from them may be observed throughout the year, and daily weather reports may be kept by the class. A talk on the weather by the local weather forecaster or a prominent farmer might be arranged; a class member might be selected to make a report on the daily radio weather broadcast; old copies of local newspapers may be consulted for data about drought, storm, rain, snow, and sunshine conditions in the past that could be used as a basis for class talks, compositions, and arithmetic problems. Free information on the time to plant is available from State agricultural extension services, local vocational schools, the United States Department of Agriculture, and commercial houses handling agricultural products and supplies. Books and magazines are always available to schools through their local or State libraries.

### *How much time and work will the garden need?*

The amount of time and effort necessary to produce a food crop may be made the basis of a practical arithmetical problem for upper-grade pupils.

A study of the number of man-hours required to produce the food grown locally, and the kind of labor necessary for this purpose—men, women, or children, with or without experience—may be kept simple enough for elementary pupils to understand. If transient laborers must be hired, information should be obtained as to where they come from, how much they are paid, and how they are housed. Information should be obtained, also, on how much labor is saved by the use of machinery. The realization of the amount of labor necessary to harvest a crop will emphasize to pupils the possible food waste that may result from insufficient help at harvesttime. Newspaper-reading pupils may offer reviews of articles about the Women's Land Army, the Victory Farm Volunteers, or the High School Victory Corps.

Getting the crops harvested at the right time to obtain maximum production of high quality is one of the farmer's big problems. In many localities older school pupils are given work that allows them to help with harvesting of food crops on local farms. Some schools close for a short time at the harvesting period to give children an opportunity to help in harvesting work without missing school. Communities sometimes form cooperative harvesting clubs in which the children may have a part.

The harvest period may be the logical time to take the class on a visit to

a farm if that is feasible. They should be instructed in advance about what they should look for on the trip.

A computation of the time required to produce a head of cabbage, for instance (use popular local produce), will be an impressive means of teaching an appreciation of food.

### *If we raise more than we need, can we sell it?*

A study of the distribution of food from the producer to the consumer is a very important part of the food picture. Such a study should show, for instance, how much of the food produced locally is used locally; if not, to whom it is sold—the wholesaler, manufacturer, packer, middleman, Government, grocer, or directly to consumers; whether it is used immediately or is stored; whether it is delivered to or picked up by the buyer; whether there are occasional surpluses of local commodities and, if so, how they are disposed of; and if any food is wasted.

Poise and self-assurance are among the many valuable attributes that will be developed by pupils who are taught how to interview. Pupils can do a constructive piece of work in interviewing food producers and buyers for the purpose of securing information on where and how local produce is sold, under what conditions it is sold, and how much is paid for it. With the permission of the people they interview, pupils may write up any information interesting to the community and offer it to the local paper for publication.

If figures are secured in the study showing that a considerable amount of food has been wasted for various reasons in the past, they should be turned over to the local nutrition committee or other group that may be in a position to help prevent the recurrence of such waste in the future.

Both simple and complex arithmetic problems may arise from a study of wholesale and retail prices for foodstuffs, as well as the over-all cost of producing them. A discussion of family budgets, food costs, and food values will open the way for many valuable, practical lessons in arithmetic. The home economics teacher or a capable housewife may make helpful contributions of material that will be valuable in a study of prices.

Playing grocery store is a favorite game among children. Fun and learning are combined so thoroughly in this form of activity that it should be recommended for use in teaching food conservation. The physical set-up for an imitation grocery store may be very simple. If at all possible, however, real food and real money should be used. Imitation ration stamps may be made. The experience obtained by pupils in organizing such a store, making price tags and signs, arranging the produce, and keeping books will be very valuable. In carrying on such a project they may secure practical information concerning the agencies from which the grocer buys, on how he builds up trade, and on how he prevents food waste. Such questions may be answered by an outstanding community



grocer who is willing to visit the class or to be interviewed by class members. Pupils will secure experience in an imitation grocery store, also, in giving directions, making explanations to customers, taking telephone orders, and engaging in conversation with customers. Concrete arithmetic problems involved in counting, weighing, measuring, and comparing foodstuffs give pupils practice in solving such problems. Pupils who have helped with the family shopping or in the school lunchroom may take the lead in managing a school grocery store.

### *How can we best prepare and pack our produce to sell it?*

Where careful preparation of produce for market is an important part of local business the children may profitably exchange experiences or question a guest farmer or the teacher of agriculture about it. If the class garden does not provide enough vegetables to give pupils experience in preparing and packing produce, additional vegetables and fruit may be brought to school by the children or teacher.

The importance of cleanliness in handling produce and of displaying it in a pleasing manner may be emphasized by having the pupils arrange attractive displays of fruits and vegetables for a table centerpiece, for an imaginary or real store window, a counter, a roadside stand, or for any other purpose that might seem useful to the class and teacher.

Observations on methods of handling and displaying produce followed in a big market, might be profitable for some classes. A lesson in printing and making attractive labels and price tags may be included as a part of the instruction in produce display. A practical study of the capacity of commercial containers, such as crates, barrels, baskets, and bales, may be made.

### *Where does our local produce go when it leaves here?*

When possible a trip to a large wholesale food plant should be made to watch a carload or truckload of food being unloaded. Such a trip will stimulate interest in methods of preparing and packing and transporting food, and will round out for the pupils the picture of food distribution. On such a trip also they may find the answers to such questions as: How much food is wasted in the process of transportation—unloading, checking, and reloading on local vehicles; what is done with discarded food; is any of it usable; what are the possible means of using it? Information gained from the plant manager will give pupils data on the quantities and prices of local foods purchased, the mode of collecting the products, cost of processing or preparing for sale, and cost of packing. The length of time required for transportation and the dangers of food deterioration en route may be investigated. By a study of a refrigerator car and a refrigerator truck pupils will get a clear understanding and appreciation of the care perishable products must have.



This youngster is practicing in his own home what he has learned in school about the value of utilizing all food that is purchased.

As a class project the pupils may trace a bushel of apples from the orchard to the consumer, or they may make a comparative study of diets of Americans 100 years ago, before transportation facilities were improved.

### *If we can't use all our produce how can we keep it?*

A careful study of methods of preserving local produce, by canning, drying, smoking, condensing, dehydrating, pickling, or freezing, may be made interesting if the pupils bring to school samples of various kinds of processed foods. When that isn't possible a teacher can arrange to borrow such samples from stores. A visit to a commercial cannery, freezing plant,



or other food-processing plant would be advantageous. A home economics teacher or perhaps some of her advanced pupils could give valuable talks and demonstrations and show pictures and displays that would help pupils to understand how to preserve produce for future use.

Rural pupils will want to discuss methods of storing food on the farm—in silos, underground cellars, or freezing plants. Home-storage methods should receive careful consideration. The effect of temperature and humidity on food should be demonstrated in classroom experiments.

Statements made by pupils in regard to damage to food at their homes, caused by rats, mice, flies, ants, weevils, crows, hawks, skunks, foxes, or other predatory animals or insects, may be followed by a study of the damage caused by such pests all over the country. County agricultural agents, agricultural extension leaders, and teachers of agriculture will furnish information on this subject. A survey of the damage to food in the community caused by these pests and a study of methods of preventing this damage—the results of which may be distributed through posters and handbills—will help pupils to determine how they may contribute to an increased food supply.

### ***What foods are grown in other parts of our country and the world?***

A study of agricultural specialization, climate and soil differences, labor and distribution problems, and seasonal crop surpluses should be made on a national level.

Pupils should be encouraged to find the answer to such questions as: How do diets differ in various parts of the country; how is food wasted in other sections; what can boys and girls do to cooperate in preventing food from being wasted in other sections? Impress upon pupils, for example, that when there is a surplus of some commodity, such as potatoes, they may help by eating more potatoes than they normally would eat.

It will interest pupils, also, to find the answers to the questions: Do foods grown in other countries (a) supplement ours, as is true of coffee, tea, and bananas, or (b) are they the same as ours, as is true in many instances of such foods as beef and wheat? Of what foods have we been deprived because of the war?

Most countries eat what they produce because of trade barriers that prevent the importation of products from other countries. The Chinese eat rice, the Mexicans eat beans and corn, the Scandinavians eat fish because they have an abundance of these foodstuffs. How the eating customs of other countries developed is a fascinating study. The contrast between a Swedish meal and an American meal, for instance, will illustrate the wide differences in diets. The variety of the American diet emphasizes the fact that this country raises a wide diversity of agricultural products.

The United Nations Conference on Food and Agriculture, held in May 1943, at Hot Springs, Va., and dedicated to the raising of food standards in every country, is a subject worthy of discussion. The report of this conference pointed out, for instance, that despite the abundant food supply in the United States, an estimated one-third of our people are undernourished. The report also shows that the diets of about three-fourths of the people of Asia are far below the standard for health. In fact, the world has never had enough to eat. The International Food and Agriculture Organization, proposed as a result of this conference, would have the job of helping nations to change these conditions.

There are many angles to the study of food as an economic factor in our world relationship. The effects of war on a nation, such as Russia, which lost its bread basket (the Ukraine) for a time, and upon production and distribution facilities, should be studied by school children in order that they may understand the temporary need for food aid for countries devastated by war.

The little that a child can do toward saving food for a hungry world may not seem significant to him, but to teachers who understand what the smallest food-saving contribution may amount to in the aggregate, food saving on an individual scale takes on real meaning.

### *Do pupils in our school waste food?*

In cooperation with the school home economics class, a nutrition committee can make a check in the school lunchroom to determine the amount of food wasted, the causes of this waste, and the steps that may be taken to reduce the waste. Such a study should be made over a continuing period of weeks. The amount of waste may be dramatized by a graph, or the actual garbage representing the waste may be displayed, with its weight of wasted food noted on a sign. Any such method of dramatizing food waste will help to stop waste.

One school aroused the interest of pupils by a display of the food wasted and by classroom discussions of the causes for such waste. Ideas were exchanged for preparing and serving the food more palatably and posters and cartooned signs were used in the lunchroom to emphasize the need for food conservation. After a week of intensive activity and publicity about food conservation there was a marked decrease in the amount of food wasted. A later surprise survey indicated a tendency to return to earlier wasting habits. A year's publicity program was laid out, therefore, to remind pupils intermittently to save food, and at the end of the year the food conservation habit was well ingrained in the cafeteria patrons.

Food conservation pledges or resolutions, started by pupils among classmates, may be extended eventually to the community. Question and answer programs on food conservation in the classroom, school, or community, and dramatic skits, dialogues, and round-table discussions,

based on food conservation, will increase pupils' knowledge on this subject and at the same time encourage them to save food.

### *Is much food wasted in our town?*

As pupils grow food conscious, they may call attention to the amount of food wasted in the community. After the class has discussed the difference between edible food waste and inedible food waste, a trip to the garbage dump or incinerator would give pupils some concrete ideas about the kind and quantity of food wasted. Through interviews or letters, pupils may secure from housewives, grocery owners, restaurant managers, food wholesale men, dairymen, canners, bakers, and farmers, information concerning food waste as these people see it and on how this waste may be reduced. Incidentally, a project of this kind would give intermediate pupils opportunity to secure experience in making appointments, keeping them, interviewing, and reporting their findings, either orally or in written form, to the class.

In pre-interview training, pupils should be given the facts about food waste from the national as well as the local levels. Permission from the persons interviewed should be requested before using their statements in any public way. Use of the suggestions made by interviewed persons should be under direction of the teacher.

Repetitions of such interviews by various schools in the same town may be avoided by having representative pupils go for interviews as a committee.

Any valuable findings and conclusions growing out of such interviews should be shared with the community committee on food conservation. Radio stations and newspapers usually will cooperate in broadcasting and printing informational stories, spot announcements, interviews, skits and talks; and newspapers will use pictures to accompany news stories.

In some towns the garbage is collected by a farmer. He should be able to give a class committee interesting information from which to draw convincing conclusions on food waste.

Pupils may cooperate in the publication on the women's pages of local papers of favorite recipes for using left-overs, oft-wasted food, and less familiar foods.

A study of the causes for wasting food in the homes should be followed by a review of ways to reduce food waste. Included in the study may be observations made on the kinds of food wasted and their relation to malnutrition; the amount of money that could be saved if waste were reduced; and on ways of preventing the waste.

Perhaps the grocer or a housewife could contribute information on the comparative values of large and small eggs, expensive and cheaper cuts of meats, "seconds" in fresh produce; and could offer suggestions on how shoppers may aid the grocer to reduce his food losses.

A public display of wasted edible food actually found in the garbage dump is an impressive way to bring out the facts.

Some pupils may enjoy making up rhymes about food waste to offer to local papers. Others may wish to clip from magazines and papers pictures and articles about the importance of food, to be placed on the school or classroom bulletin board.

### ***How can we share our study of food conservation with our community?***

Possibilities for arranging demonstrations, exhibits, talks, experiments, and discussions on food demonstrations for the benefit of the community are innumerable. Class, school, and community program chairmen, as well as newspaper and radio representatives, will welcome this kind of participation.

The accompanying suggestions may be helpful.

#### **Demonstrations:**

How and why to cook vegetables with their skins on.

How to sharpen knives for paring vegetables.

How to make a good salad to include vegetable and fruit trimmings.

Easy ways to use dry bread.

Comparing, by weight, the part of a particular food usually eaten with the part that is often wasted by trimming, paring, and discarding.

Left-overs that may be used to make sandwich fillings.

#### **Visual reminders to be made by the art class:**

Lunchroom signs: "Are you 'platriotic'?"

Garbage pail stickers: "Are you wasting food?"

Refrigerator stickers: "Check contents: save some pence."

Table tent signs: "Reserved for Clean Plate Club members."

Class "Clean Plate Club" membership poster.

Kitchen pin-up sign: "I'll never waste another bite of food as long as I live."—Guadalcanal soldier.

Shopping pad reminder: "What is on hand?"

Left-over recipes collected from mothers, and compiled with written helps on how to save money by saving food.



### **Exhibits:**

A dollar's worth of fruits and vegetables in a market basket in contrast to a garbage can with the wasted trimmings and peelings from a dollar's worth of fruits and vegetables.

Covered dishes and containers that are suitable for keeping left-overs, and fresh vegetables and fruits.

Edible food waste in contrast with inedible food waste.

Sandwiches that will be eaten because they are attractive and nutritious, contrasted with sandwiches that are dry and bulky.

A lunch box with a well-balanced meal, attractively packed, in contrast with one that is unattractive, unappetizing, and conducive to wastefulness.

A container holding food wasted by children in school lunchroom (box lunch waste or plate waste).

Two after-dinner tables, one showing food waste on plates and one with no food waste.

### **Short talks, essays, or stories on personal experiences such as:**

How I learned to like peas.

Why I belong to the "Clean Plate Club."

Raw vegetables and fruits are good.

My adventures in eating new foods.

How I helped my mother save food.

Experiments with left-overs.

Preparing foods in amounts that are needed for a meal.

### **Discussions:**

Ways to spend less and eat better.

Why join the Clean Plate Club?

Wartime table manners that save food.

How to starve the garbage can.

How food will help win the war.

How people in other countries save food.

Why children should learn to eat a variety of foods.



## Appendix

### *The origin and growth of CLEAN PLATE CLUBS*

John looked down at his plate. "I can't eat ALL these scrambled eggs," he sighed.

"Then why did you take so much?" asked his father.

"I thought I wanted it, but I'm too full now. I just CAN'T eat any more."

"I'm full, too. Excuse me, please." John's younger sister, Margot, pushed back her chair to leave the table.

"All right," said Dad. "You both may be excused, but it's too bad that neither of you can belong to my club."

Margot and John looked up.

"What club?" they asked.

"Oh, you wouldn't be interested," he answered. "It's only for people who eat everything."



The lunchroom supervisor can do much toward encouraging each child to eat all the food she orders.

This was the beginning of one CLEAN PLATE CLUB as it actually took place in the home of a Commander of the U. S. Navy in a town in Illinois, in February 1942. When John's and Margot's friends heard about the club, they, too, wanted to join. So the family provided membership buttons, together with pledges which read as follows:

*I, \_\_\_\_\_, being a member in good standing of the CLEAN PLATE CLUB, hereby agree that I will finish all the food on my plate and drink all my milk, unless excused, and will continue to do this until Uncle Sam has licked the Japs and Hitler.*

About the same time, a Minneapolis newspaper developed its own CLEAN PLATE CLUB as a means of waking people up to the realization of the enormous amount of food wasted by individuals who leave food on their plates. Knowing that adults as well as children are careless about this practice, the Minneapolis paper invited every man, woman, and child to join the CLEAN PLATE CLUB. Starting February 28, 1943, the newspaper conducted an extensive campaign, publicizing the facts on food waste, which brought thousands of pledge signers into the CLEAN PLATE CLUB. The invitation read as follows:

*Join America's most Unexclusive Club!*

*Dues: A clean plate at every meal!*

The War Food Administration has encouraged the organization of such clubs throughout the United States, as a part of the Food Fights for Freedom program.

## PUBLICATIONS ON FOOD CONSERVATION

These publications will be helpful in teaching food conservation. They may be had without charge by sending your request to:

Office of Information, USDA, Washington 25, D. C.

CUT FOOD WASTE. Brief summary of kinds and amounts of food wasted, with suggested ways to save food from waste. War Food Administration.

FOOD CONSERVATION—A COOPERATIVE JOB FOR ALL TEACHERS AND PUPILS. Reprint from Education for Victory, Sept. 1, 1943; lists many conservation projects for different classes. Processed.

NUTRITION EDUCATION IN THE ELEMENTARY SCHOOL. Suggests ways of making nutrition education in the elementary school more effective. U. S. Office of Education in cooperation with the USDA.

REDUCING FOOD WASTE IN RETAIL STORES. Explains how to reduce waste of specific commodities, in storage and in handling. War Food Administration. Processed.

THE CONSERVATION OF FOOD. Detailed statement of facts on food waste for use of committees directing food conservation programs. War Food Administration.

A FRUIT AND VEGETABLE BUYING GUIDE FOR CONSUMERS. Misc. Pub. 167.

DRIED BEANS AND PEAS IN WARTIME MEALS. AWI-47.

FATS IN WARTIME MEALS. AWI-34.

FOOD FOR CHILDREN. Farmers' Bul. 1674.

FOOD FOR GROWTH. AWI-1.

GREEN VEGETABLES IN WARTIME MEALS. AWI-54.

## PUBLICATIONS ON FOOD CONSERVATION—Continued

HOME STORAGE OF VEGETABLES AND FRUITS. Farmers' Bul. 1939.

HONEY AND SOME OF ITS USES. Leaflet 113.

HUNGER QUILTS SCHOOL. AWI-25.

MEAT FOR THRIFTY MEALS. Farmers' Bul. 1908.

NINETY-NINE WAYS TO SHARE THE MEAT. AWI-13.

OVEN DRYING—ONE WAY TO SAVE VICTORY GARDEN SURPLUS. AWI-59.

POTATOES IN POPULAR WAYS. AWI-85.

ROOT VEGETABLES IN WARTIME MEALS. AWI-39.

HOME CANNING OF FRUITS AND VEGETABLES. AWI-93.

MAKING SCHOOL LUNCHES EDUCATIONAL. Nutrition Education Series, Pamphlet No. 2. (For copies write to U. S. Office of Education, Federal Security Agency, Washington 25 D. C.)

### PLAYLETS:

JIMMIE AND THE VICTORY FAIRY. A playlet on food conservation for children in third and fourth grades, in which the entire class may participate if desired. War Food Administration.

LET'S PLAY SOLDIER. A short, simple dramatization, using three characters, that answers the question, "How does cleaning my plate help win the war?"

A playlet for young children on food conservation. War Food Administration.

STEAMED UP FOR VICTORY. A 20-minute play on food conservation for elementary schools, using eight characters. War Food Administration.

WE SAVE FOR UNCLE SAM. A four-character skit, especially good for parent-teacher association use. War Food Administration.

WIN-THE-WAR SPECTACLES. A one-act play on food conservation for P. T. A. groups, women's clubs, and junior-senior high schools. War Food Administration.

### FOR SALE ONLY

#### POSTERS:

FIGHT FOOD WASTE IN THE HOME. 25 cents for set of 10.

GET THE GOOD FROM YOUR FOOD. 25 cents for set of 10.

MEAT COOKING CHARTS. 50 cents for set of 7.

POULTRY COOKING CHARTS. 50 cents for set of 8.

HOME CANNING CHARTS. 50 cents for set of 20.

Prepared by the Bureau of Human Nutrition and Home Economics, United States Department of Agriculture. Send your order for posters, with remittance (money order or check), to the Superintendent of Documents, Government Printing Office, Washington 25, D. C.